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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,532	11/27/2000	Tetsujiro Kondo	450101-02344	7536
20999	7590	07/25/2005	EXAMINER	
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			TRAN, THAI Q	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/673,532

Applicant(s)

KONDO ET AL.

Examiner

Thai Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27,37-42,49-57 and 64-75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27,37-42,49-57 and 64-75 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/17/00 & 12/21/00
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-27, 37-42, 49-57, 64, 68, and 72 are rejected under 35 U.S.C. 102(e) as being anticipated by Hamilton, Jr. et al. (US 6,192,162 B1).

Regarding claim 1, Hamilton, Jr. et al discloses an image-signal processing apparatus (Fig. 1) for processing an input image signal at a position of each pixel, said input image signal having any one of various color components, said apparatus comprising:

extracting means (the compute luminance block 42 of Fig. 3, col. 4, lines 13-28) for extracting a plurality of pixels located near each pixel of interest of the input image signal;

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class-determining means (the classify pixel block 44 of Fig. 3, col. 4, line 28 to col. 5, line 18) for determining a class from the pixels extracted by the extraction means; and

pixel-generating means (the adaptive edge boost block 46 and the compute final image block 36 of Fig. 2, col. 5, lines 16-46) for generating a pixel at a position of the pixel of interest in accordance with the class determined by the class-determining means, said pixel having a color component different from at least the color component of the pixel of interest.

Regarding claim 2, Hamilton, Jr. et al discloses the claimed that the pixel-generating means generates a pixel having all color components at the position of the pixel of interest (the compute final image block 36 of Fig. 2, col. 5, lines 30-32).

Regarding claim 3, Hamilton, Jr. et al discloses the claimed that the pixel-generating means comprises storage means for storing a set of prediction coefficients of each class and operation means for performing an operation on a set of prediction coefficients which corresponds to the class determined by the class-determining means and the pixels located near the pixel of interest which have been extracted by the extraction means, thereby to generate a pixel having a color component different from at least the color component of the pixel of interest (the boost kernels shown in Figs. 6A-D, col. 5, lines 19-29).

Regarding claim 4, Hamilton, Jr. et al discloses the claimed the operation means performs an operation on a linear combination of the set of prediction coefficients and

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the values of the pixels located near the pixel of interest (the boost kernels shown in Figs. 6A-D, col. 5, lines 19-29).

Regarding claim 5, Hamilton, Jr. et al discloses the claimed that the extraction means extracts at least one different pixel and supplies the same to the class-determining means and the operation means (the compute luminance block 42 of Fig. 3, col. 4, lines 13-28).

Regarding claim 6, Hamilton, Jr. et al discloses the claimed that the color component represents a color of red, blue or green (CCD disclosed in col. 2, lines 39-60).

Regarding claim 7, Hamilton, Jr. et al discloses the claimed acquisition means (CCD disclosed in col. 2, lines 39-60) for acquiring an image signal having a pixel at each pixel position, and pixel having one of various color components.

Regarding claim 8, Hamilton, Jr. et al discloses the claimed that the acquisition means is a solid-state imaging element (CCD disclosed in col. 2, lines 39-60).

Regarding claim 9, Hamilton, Jr. et al discloses the claimed that the solid-state imaging element is a CCD image sensor of the Bayer arrangement (CCD disclosed in col. 2, lines 39-60).

Method claims 10-18 are rejected for the same reasons as discussed in corresponding apparatus claims 1-9 above.

Recording medium claims 19-27 are rejected for the same reasons as discussed in the corresponding apparatus claims 1-9 above and the computer readable storage medium disclosed in col. 5, lines 33-42.

Regarding claim 37, Hamilton, Jr. et al discloses an image-signal processing apparatus (Fig. 1) for processing an input image signal, said input image signal having a prescribed number of sample values which constitute one image and each of which represents any one of various colors at each pixel, said apparatus comprising:

extracting means (the compute luminance block 42 of Fig. 3, col. 4, lines 13-28) for extracting a plurality of pixels located near each pixel of interest of the input image signal;

class-determining means (the classify pixel block 44 of Fig. 3, col. 4, line 28 to col. 5, line 18) for determining a class from the pixels extracted by the extraction means; and

output image-signal generating means (the adaptive edge boost block 46 and the compute final image block 36 of Fig. 2, col. 5, lines 16-46) for generating an output image signal having more sample values than the prescribed number, for the various colors, by processing each pixel of the input image signal in accordance with the class determined by the class-determining means.

Regarding claim 38, Hamilton, Jr. et al discloses the claimed that the output image-signal generating means comprises storage means for storing a set of prediction coefficients for each class and operation means for performing an operation on a set of prediction coefficients which corresponds to the class determined by the class-determining means and the pixels located near the pixel of interest which have been extracted by the extraction means, thereby to generate the output image signal (the

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classify pixel block 44 of Fig. 3, col. 4, line 28 to col. 5, line 18 and the boost kernels shown in Figs. 6A-D, col. 5, lines 19-29).

Method claims 39-40 are rejected for the same reasons as discussed in the corresponding apparatus claims 37-38 above.

Recording medium claims 41-42 are rejected for the same reasons as discussed in the corresponding apparatus claims 37-38 and the computer readable storage medium disclosed in col. 5, lines 33-42.

Regarding claim 49, Hamilton, Jr. et al discloses an image-signal processing apparatus (Fig. 1) for processing an input image signal at a position of each pixel, said input image signal having any one of various color components, said apparatus comprising:

extracting means (the compute luminance block 42 of Fig. 3, col. 4, lines 13-28) for extracting a plurality of pixels located near each pixel of interest of the input image signal, each pixel having a color component of the highest density of all color components;

class-determining means (the classify pixel block 44 of Fig. 3, col. 4, line 28 to col. 5, line 18) for determining a class from the pixels extracted by the extraction means; and

pixel-generating means (the adaptive edge boost block 46 and the compute final image block 36 of Fig. 2, col. 5, lines 16-46) for generating a pixel at a position of the pixel of interest in accordance with the class determined by the class-determining

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means, said pixel having a color component different from at least the color component of the pixel of interest.

Regarding claim 50, Hamilton, Jr. et al discloses the claimed that the pixel-generating means comprising storage means for storing a set of prediction coefficients of each class and operation means for performing an operation on a set of prediction coefficients which corresponds to the class determined by the class-determining means and the pixels located near the pixel of interest which have been extracted by the extraction means, thereby to generate the pixel having the different color component (the boost kernels shown in Figs. 6A-D, col. 5, lines 19-29).

Regarding claim 51, Hamilton, Jr. et al discloses the claimed that the pixel-generating means generates a pixel having all color components at the position of the pixel of interest (the boost kernels shown in Figs. 6A-D, col. 5, lines 19-29).

Method claims 52-54 are rejected for the same reasons as discussed in the corresponding apparatus claims 49-51.

Recording medium claims 55-57 are rejected for the same reasons as discussed in the corresponding apparatus claims 49-51 and the computer readable storage medium disclosed in col. 5, lines 33-42.

Regarding claim 64, Hamilton, Jr. et al discloses an image-signal processing apparatus (Fig. 1) for processing an input image signal at a position of each pixel, said input image signal having any one of various color components, said apparatus comprising:

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extracting means (the compute luminance block 42 of Fig. 3, col. 4, lines 13-28) for extracting a plurality of pixels for each color component, from pixels located near each pixel of interest of the input image signal;

class-determining means including a characteristic-data generating section (the compute luminance block 42 of Fig. 3, col. 4, lines 13-28) for generating characteristic data about the pixels of each color component, from the pixels of each color component which have been extracted by the extraction means, and a class-determining section (the classify pixel block 44 of Fig. 3, col. 4, line 28 to col. 5, line 18) for determining a class from the characteristic data generated for each color component; and

pixel-generating means (the adaptive edge boost block 46 and the compute final image block 36 of Fig. 2, col. 5, lines 16-46) for generating a pixel in accordance with the class determined by the class-determining means, said pixel having a color component different from at least the color component of the pixel of interest.

Method claim 68 is rejected for the same reasons as discussed in corresponding apparatus claim 64 above.

Recording medium claim 72 is rejected for the same reasons as discussed in corresponding apparatus claim 64 above and the computer readable storage medium disclosed in col. 5, lines 33-42.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 65-67, 69-71, and 73-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamilton, Jr. et al (US 6,192,162 B1) in view of Kondo et al (US 6,463,178 B1).

Regarding claim 65, Hamilton, Jr. et al discloses all the claimed limitations except for providing that the characteristic-data generating section generates, as the characteristic data, a space activity of the pixels of each color component, which have been extracted by the extraction means.

Kondo et al teaches, in an image processing device, the use of ADRC (Adaptive Dynamic Range Coding) for encoding the image signal (col. 6, lines 39-52).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the ADRC as taught by Kondo into Hamilton, Jr. et al's system in order to compress the image data to increase the storage capacity.

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Regarding claim 66, Kondo et al also discloses the claimed that the characteristic-data generating section generates the space activity by performing of ADRC process on the pixels of each color component (col. 6, lines 39-52).

Regarding claim 67, Hamilton, Jr. et al discloses the claimed that the extraction means extracts the pixels corresponding to each color component from pixels existing in a region near the pixel of interest (the compute luminance block 42 of Fig. 3, col. 4, lines 13-28).

Method claims 69-71 are rejected for the same reasons as discussed in the corresponding apparatus claims 65-67 above.

Recording medium claims 73-75 is rejected for the same reasons as discussed in the corresponding apparatus claims 65-67 above and the computer readable storage medium disclosed in col. 5, lines 33-42.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The cited references relate to processing image signal.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai Tran whose telephone number is (571) 272-7382. The examiner can normally be reached on Mon. to Friday, 8:00 AM to 5:30 PM.

The fax phone number for the organization where this application or proceeding is assigned is 571 273 8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTQ


THAI TRAN
PRIMARY EXAMINER